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# Transportation Security

**SNL Biosecurity Team**

**National Workshop on Biosecurity**

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Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company,  
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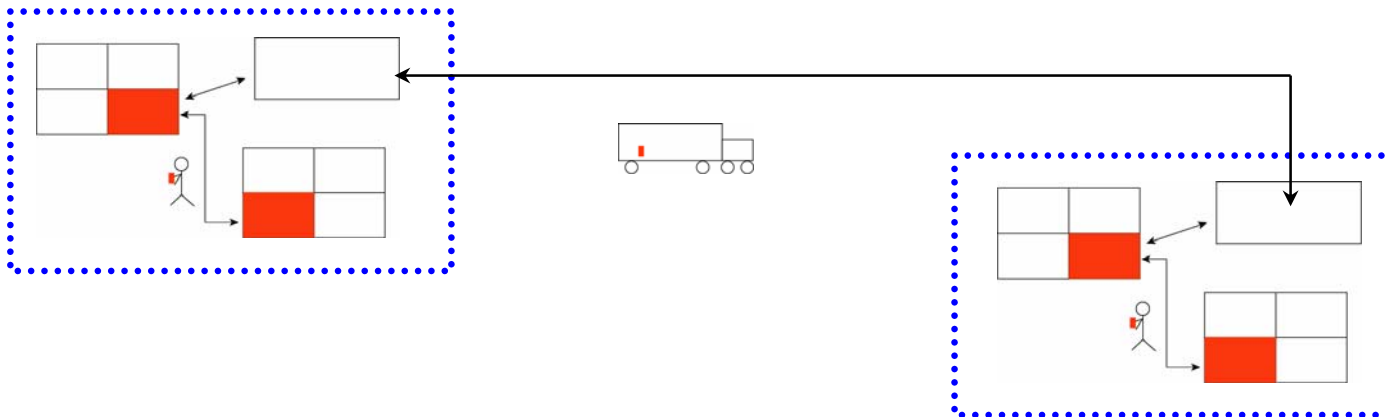


**Sandia  
National  
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# Infectious Substance Transport

- **Necessary for research, diagnosis, outbreak response**
- **Safe and secure transport is critical**
  - **Securing dangerous pathogens and toxins against theft and sabotage while outside of restricted areas (e.g. laboratories)**





# Infectious Substance Transport is Highly Regulated

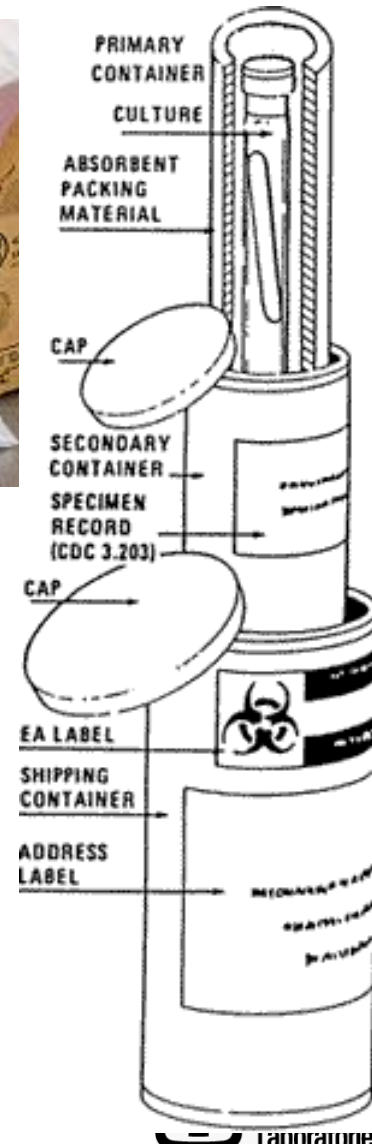
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- **UN Committee of Experts on Transport of Dangerous Goods**
  - 27 countries (voting)
  - Non-voting observers
    - ICAO, IATA, WHO, ....
  - Model Regulations (Orange Book)
- **Modes of Transportation**
  - Air: International Civil Aviation Organization (ICAO)
  - Others: Road, Rail, Water
- **National Regulations**



# Safe transport of infectious materials

- **Permit to Ship**
  - **Classify material**
    - Infectious vs diagnostic
- **Packaging**
  - **Packaging material then determined**
    - Must be UN certified
    - Triple-pack system
  - **Overpacks and permitted quantities**
    - 50 ml on commercial aircraft
    - 4 liters on cargo
    - Overpack quantity
  - **Re-use of packing materials**
  - **Dry-Ice**
    - Class 9 Hazmat





# Material Transport Security

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- **Why?**
  - Dangerous pathogens and toxins are vulnerable to theft during movement outside of protected areas
- **Who?**
  - Facilities, carriers, and states all responsible
- **The goal of transport security is**
  - To mitigate the risk of theft during transport



# Chain of Custody: Principles

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- **Aims to protect material by documenting**
  - **All individuals who have control of material**
  - **Secure receipt of material at appropriate location**
    - **End-user agreement**
- **Chain of custody documentation includes**
  - **Description of material being moved**
  - **Contact information for a responsible person**
  - **Time/date signatures of every person who assumes control**





# Facility Responsibilities

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- **Personnel management**
  - For people who have access to dangerous pathogens and toxins or information during transfers
- **Establish chain of custody (CoC)**
  - Record all individuals who have contact with the dangerous pathogens and toxins
- **Provide physical security**
  - For packages that need temporary storage
- **Protect transport documentation**
- **Determine who is able to authorize, transport, and receive dangerous pathogens and toxins**



# Transport Security Process

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- **Responsible authority pre-approves all transport**
- **Transport should be documented in lab records**
- **Transport is controlled and documented in delivery records**
- **Timely shipping methods are used**
- **Chain of Custody is maintained**
- **Notification of successful receipt**





# Summary

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- **Biological material transport is essential for research and public health**
- **Transport security can be enhanced through the following mechanisms:**
  - **Control**
  - **Accountability**
  - **Documentation**
  - **Oversight / authorization / audits**
  - **Personnel management**